

REMARKS

After entry of the present Amendment, claims 1-16 remain in the application with claims 1, 9, and 10 in independent form. Claims 1 and 3-13 have been amended to add the limitations of a first detector and a second detector. Other non-substantive amendments have also been made to claims 1 and 3-13. There is full support for the amendments to claims 1 and 3-13 in the specification of the present application, specifically in paragraphs [0015] and [0019]. New dependent claim 16 has been added to claim the further limitation of the electromagnetic rays being emitted in the absence of a light source. There is full support for new dependent claim 16 in the present application, specifically, in paragraph [0019]. Additionally, paragraph [0019] and claims 10, 12, and 13 have been amended to harmonize the description of the first and second detectors to the representation of the first and second detectors in the Figures. Paragraph [0025] has been amended to eliminate an inadvertent numbering.

Claims 1-3, 5-11, and 14-15 stand rejected under 35 U.S.C. §102(e) as being anticipated by Allen et al. Claims 4, 12, and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Allen et al. In rejecting claims 4, 12, and 13, the Examiner took official notice that "using a second detector as a reference detector for establishing a benchmark is known in the art; therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the stored threshold values or ranges of Allen et al by the use of a second detector for generating a reference signal so that to compare with a tested signal from the first detector because they are equivalent in function."

Independent claims 1 and 9 have been amended to incorporate the substance of dependent claim 4 to specify that establishing the benchmark is performed with the first detector. Further, independent claims 1 and 9 have been further amended to specify that detecting the electromagnetic rays from the coating is performed with the second detector. Independent claim 10 has been amended to change the first detector for detecting the electromagnetic rays from the coating to the second detector, and the second detector claimed in dependent claim 12 has been added to independent claim 10 and changed to the

first detector. As such, each of the independent claims now require both the first and second detectors, as previously required by dependent claim 12 that was rejected under 35 U.S.C. §103(a).

The Applicants respectfully traverse the Examiner's rejection of original claims 4, 12, and 13, the substance of which is now incorporated into the amended independent claims as described above. More specifically, the Applicants respectfully assert that the Examiner's use of official notice to fill the gaps in the evidentiary showing to support the rejections of claims 4, 12, and 13 under 35 U.S.C. §103(a) is inappropriate given the nature of the elements being officially noticed. In accordance with MPEP 2144.03(C), the Applicants assert that establishing a benchmark with a second detector, in combination with the other limitations of detecting electromagnetic rays from a coating and comparing the electromagnetic rays from the coating, is not considered to be common knowledge or well-known in the art. To support this proposition, it is duly noted that Allen et al. specifically establishes the use of a set "threshold", but Allen et al. makes no mention whatsoever of establishing the set "threshold" with a second detector. More specifically, Allen et al. sets forth, in column 13 starting at line 58, that "this invention measures a physical characteristic of the catalyst coating to determine when the ozone depletion efficiency of the catalyst coating drops below the threshold failure level which is defined as approximately 50% or more of the certified ozone depletion efficiency (for specific vehicles) after long term mileage accumulation."

The present application sets forth specific advantages to establishing the benchmark with the second detector. Specifically, the present application sets forth, in paragraph [0015], that "the first detector 20 can be used as a reference signal to the second detector 22. The normalized or comparative signal of the second detector 22 to the first detector 20 would then be significantly affected by the wall reflectivity, and much less affected by the intensity of the light source 18." Further, the present application sets forth, in paragraph [0019], that "the changing brightness of the light source 18 would not affect the measurement of the coating." Such factors are not even considered in Allen et al.

In further support of the impropriety of using official notice in the present rejection, MPEP 2144.03(A) sets forth that “[i]t would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known.” Examples of specific situations where the facts asserted to be well known are capable of instant and unquestionable demonstration as being well-known include “adjusting the intensity of a flame in accordance with a heat requirement”, or the fact that “tape recorders commonly erase tape automatically when new ‘audio information’ is recorded on a tape which already has a recording on it.” MPEP 2144.03(A). It is evident from the examples of proper officially noticed facts that the present situation is entirely different, and the use of first and second detectors is not capable of instant and unquestionable demonstration as being well-known.

Even if the Examiner maintains that official notice is proper in the present circumstance or, alternatively, finds a prior art reference evidencing the broad concept of using a second detector as a reference detector for establishing a benchmark, such a reference will still be insufficient to establish *prima facie* obviousness of independent claims 1, 9 and 10. More specifically, as the Examiner is aware, to establish a *prima facie* case of obviousness, three basic criteria must be met, the first of which requires that there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the single reference or to combine reference teachings.

The cases of *In re Sang Su Lee*¹ and *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*² clarify the law and the Examiner’s responsibilities relative to the first criterion. The more applicable and recent case, *Princeton*, is discussed immediately below. In June of 2005, the Court of Appeal for the Federal Circuit (CAFC) reiterated the principles involved in assessing the differences between the prior art and the claimed invention when addressing the first criterion...in the subject application, the motivation to modify Allen et al. with the officially noticed fact of using a second detector as a

¹ 277 F.3d 1338 (Fed. Cir. 2002).

reference detector for establishing a benchmark as being known in the art. See *Princeton*. In *Princeton*, citing *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1275 (Fed. Cir. 2004), the CAFC emphasized that a rejection under 35 U.S.C. § 103 specifically requires consideration of the claimed invention “as a whole.” Relating to this “as a whole” issue, the CAFC went further to emphasize that

[i]nventions typically are new combinations of existing principles or features. *Envil. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698 (Fed. Cir. 1983) (noting that “virtually all [inventions] are combinations of old elements”). The “as a whole” instruction in title 35 prevents evaluation of the invention part by part. *Ruiz*, 357 F.3d at 1275. Without this important requirement, an obviousness assessment might successfully break an invention into its component parts, then find a prior art reference corresponding to each components. *Id.* This line of reasoning would import hindsight into the obviousness determination by using the invention as a roadmap to find its prior art components. Further, this improper method would discount the value of combining various existing features or principles in a new way to achieve a new result – often the essence of the invention. *Id.*

Contrary to this reasoning, section 103 requires assessment of the invention as a whole. *Id.* This “as a whole” assessment of the invention requires a showing that an artisan of ordinary skill in the art at the time of the invention, confronted by the same problems as the invention and with no knowledge of the claimed invention, would have selected the various elements from the prior art and combined them in the claimed manner. *Id.* In other words, section 103 requires some suggestion or motivation, before the invention itself, to make the new combination. (emphasis added).

In relation to claims 4, 12, and 13, the Examiner correctly recognizes that Allen et al. does not disclose, teach, or otherwise suggest establishing a benchmark by the use of a second detector. To supplement the deficiencies associated with the disclosure and teachings of Allen et al., the Examiner relies, in error, on the officially noticed fact that the use of a second detector as a reference detector for establishing a benchmark is known in the art. Simply stated, there is no suggestion or motivation to modify Allen et al. to include a second detector as a reference detector for establishing a benchmark.

More specifically, it is clear that Allen et al. does not disclose, teach, or suggest, establishing a benchmark with a detector. However, taking the invention as a whole, there is

² 411 F.3d 1332 (Fed. Cir. 2005).

no motivation to modify Allen et al. with the fact that using a second detector as a reference detector for establishing a benchmark is known in the art. More specifically, the broad use of a second detector as a reference detector for establishing a benchmark does not account for the establishment of a benchmark with a second detector in an electromagnetic ray detecting paradigm. As set forth above, there are specific advantages from establishing the benchmark with the detector, such as eliminating the effect of changing brightness of the light source on the measurement of the coating.

Granted, one must also consider knowledge that is generally available to one of ordinary skill in the art when determining whether it is appropriate to combine the teachings of two different references or to modify a single reference. However, as discussed at length above, when doing so, i.e., when considering the knowledge that is generally available to one of ordinary skill in the art, the teaching or suggestion to make the claimed combination must both be found in the prior art, i.e., in the knowledge of those skilled in the art, and not based on the Applicant's disclosure.

To rely on the combination invention claimed in the subject application and then sift through the prior art looking for the invention claimed in the subject application is impermissible hindsight as discussed above and the Examiner cannot engage in such conduct.³

For the Examiner to reach a proper determination under 35 U.S.C. § 103:

The examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. Knowledge of applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

³ The courts have also indicated that it is impermissible to use the inventor's disclosure as a road map for *selecting* and combining prior art disclosures.

Finally, relative to new claim 16, which claims that the electromagnetic rays are emitted in the absence of a light source, Allen et al. requires the use of a light source in each of the embodiments disclosed. In the present application, one of the embodiments for detecting the coating involves detecting emissivity of the coating, as claimed in dependent claim 7. A separate light source is not required to detect emissivity, as set forth in paragraph [0022] of the present application, since all objects radiate energy into a surrounding atmosphere. It is that radiant energy that is being detected and, as such, no separate light source is required.

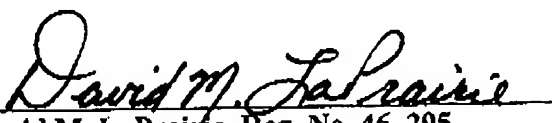
Thus, the 35 U.S.C. §103(a) rejection of original claims 4, 12, and 13 (the substance of which has now been incorporated into independent claims 1, 9, and 10) is overcome and these claims are now in condition for allowance. The remaining claims depend from the novel and non-obvious features claimed in the independent claims such that the dependent claims are also in condition for allowance.

In view of the amendments to the claims and the remarks set forth above, the Applicant's Attorney respectfully submits that the application is in condition for allowance and respectfully requests such allowance. The Commissioner is authorized to charge the Deposit Account No. 08-2789, in the name of Howard & Howard Attorneys, P.C., for any fees or credit the account for any overpayment.

Respectfully submitted,

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